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panel A-2, shown as coupled to bus 110 in this embodiment of the present invention, is representative, respectively, of flexible display panel 500A and flexible display panel 500B disposed integral with front cover 300. Display device 105-B, shown as coupled to bus 110, is representative of the flexible display panel 600, coupled to palmtop computer 100, in one embodiment of the present invention. On-screen cursor control 107, shown as coupled to bus 110, in one embodiment of the present invention, is flexible touch sensor 501, analogous to flexible touch sensors 501A, 501B, and 600 of FIGS. 7 and 8A.

With reference to FIG. 11, a flow chart depicting the steps of a process 1100 utilizing the user interface for portable computer system 100, in accordance with one embodiment of the present invention.

In step 1102, a user turns on (powers up) portable computer 100 equipped with flexible display panel 500 and flexible touch sensor 501, in one embodiment of the present invention.

In step 1103, flexible display panel 500 displays images and characters to a user. In one example, the images and characters displayed via the flexible display panel take the form of a monthly calendar, e.g., the month of December 2000. This current example of one embodiment of the present invention is depicted in FIG. 6A.

In step 1104, the flexible display panel receives input from the user. In this example, the user touched the flexible display panel in the area that equates to Wednesday, December 20th. The flexible touch sensor is operable to register a position where contact is made with a surface of the flexible display panel. Therefore, in this example, the touching of the 20th of December, as the input, is then translated.

In step 1105, the flexible touch sensor translates the input, in this instance the contact with a surface of the flexible display panel equating to the 20th of December, into a particular command that controls the portable computer system. In this example of one embodiment of the present invention, the command instructs the portable computer system to display a new set of images and characters via the flexible display panel. In this example, the images and characters take the form of the daily planner for Wednesday, December 20th as is shown in FIG. 6B.

Therefore, by implementing the present invention as described and depicted, the disadvantages as previously discussed are overcome. By incorporating a flexible display panel with a flexible touch sensor, the overall height requirement of a portable electronic device is reduced. Further, by disposing the flexible display panel above the flexible touch sensor, the parallax effect is all but eliminated, while the quality of the display is not diminished.

The foregoing descriptions of specific embodiments of the present invention have been presented for purposes of illustration and description. They are not intended to be exhaustive or to limit the invention to the precise forms disclosed, and obviously many modifications and variations are possible in light of the above teaching. The embodiments were chosen and described in order to best explain the principles of the invention and its practical application, to thereby enable others skilled in the art to best utilize the invention and various embodiments with various modifications as are suited to the particular use contemplated. It is intended that the scope of the invention be defined by the Claims appended hereto and their equivalents.

What is claimed is:

1. A user interface for a portable electronic device, said user interface comprising:

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a) a flexible display panel, said flexible display panel forming a first layer of said user interface; and

b) a flexible touch sensor disposed immediately under a bottom of said flexible display panel and is separate from said flexible display panel, said flexible touch sensor forming a second layer of said user interface, wherein said flexible touch sensor is operable to register a position where contact is made with a surface of said user interface, wherein a particular position on said user interface is translated into a particular command controlling said portable electronic device wherein a support structure is disposed beneath said flexible touch sensor;

an additional instance of said flexible touch sensor, said additional flexible touch sensor disposed beneath said support, said additional flexible touch sensor coupled to said user interface; and

an additional instance of said flexible display panel, said additional flexible display coupled to said user interface, said additional flexible display panel disposed beneath said additional flexible touch sensor, whereby two sided flexible display functionality is provided to said user interface.

2. The user interface of claim 1 wherein said flexible touch sensor is disposed beneath said flexible display panel, wherein said flexible display panel is disposed between said flexible touch sensor and a user.

3. The user interface of claim 1 wherein said flexible touch sensor comprises a fabric, and wherein said fabric comprises conductive fibers, said conductive fibers adapted to conduct electrical impulses responsive to said contact with said user interface.

4. The user interface of claim 1 wherein the technology employed in the fabrication of said flexible display panel is electronic paper technology.

5. A portable electronic device comprising:

a) a bus;

b) a memory device coupled with said bus;

c) a processor coupled with said bus;

d) a flexible display panel coupled with said bus, said flexible display panel forming a first layer of a user interface; and

e) a flexible touch sensor disposed immediately under a bottom of said flexible display panel and is separate from said flexible display panel, said flexible touch sensor forming a second layer of said user interface wherein a support structure is disposed beneath said flexible touch sensor, said support adapted to prevent puncturing of said flexible display panel and said flexible touch sensor;

f) an additional instance of said flexible touch sensor, said additional flexible touch sensor disposed beneath said support, said additional flexible touch sensor coupled to said user interface; and

g) an additional instance of said flexible display panel, said additional flexible display panel coupled to said portable electronic device, said additional flexible display panel disposed beneath said additional flexible touch sensor, whereby two sided flexible display functionality is provided to said portable electronic device.

6. The portable computer system electronic device of claim 5 wherein said flexible touch sensor is operable to register a position where contact is made with a surface of said flexible display panel, wherein a particular position on said flexible display panel is translated into a particular command for controlling said portable electronic device.